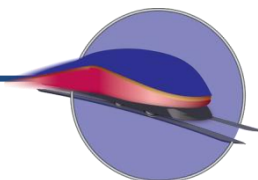


Service Development Program Application Form

High-Speed Intercity Passenger Rail (HSIPR) Program



Applicants interested in applying for funding under the FY10 Service Development Programs solicitation are required to submit this application form and other required documents as outlined in Section H of this application. List and describe any supporting documentation submitted in Section G. Applicants should reference the FY10 Service Development Programs Notice of Funding Availability (NOFA) for more specific information about application requirements. If you have questions about the HSIPR program or this application, please contact the Federal Railroad Administration (FRA) at HSIPR@dot.gov.

Applicants must use [this](#) form by entering the required information in the gray narrative fields, check boxes, or drop-down menus. Submit this completed form, along with any supporting documentation, electronically by uploading it into GrantSolutions.gov by 5:00 p.m. EDT on August 6, 2010.

A. Point of Contact and Applicant Information

Applicant must ensure that the information provided in this section matches the information provided on the SF-424 forms.

(1) Name the submitting agency: California High-Speed Rail Authority		Provide the submitting agency Authorized Representative name and title: Roelof van Ark Chief Executive Officer		
Street Address: 924 L Street Suite 1425	City: Sacramento	State: CA	Zip Code: 95814	Authorized Representative telephone: 916-384-1488 Authorized Representative email: rvanark@hsr.ca.gov
Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative):		Submitting agency POC telephone: Submitting agency POC email:		
(2) List the name(s) of additional State(s) applying (if applicable):				

B. Eligibility Information

Complete the following section to satisfy requirements for applicant eligibility.

- (1) **Select the appropriate box from the list below to identify applicant type.** Eligible applicants are listed in Section 3.1 of the NOFA.

- ☒ State
☐ Amtrak
☐ Group of States
☐ Amtrak in cooperation with a State or States

If selecting one of the applicant types below, additional documentation is required to establish applicant eligibility. Please select the appropriate box and submit supporting documentation to demonstrate applicant eligibility, as described in Section 3.2 of the NOFA to GrantSolutions.gov and list the supporting documentation under "Additional Information" in Section G.2 of this application.

- ☐ Interstate Compact
☒ Public Agency established by one or more States

- (2) **Verify the status of eligibility documentation including the dates of issue and how documentation can be verified by FRA.** Verify any completed EA or Final EIS document that demonstrates satisfaction of "Service NEPA" for the proposed Service Development Program by indicating if documents are submitted through GrantSolutions.gov or referenced through a public active URL. See Section 4.2.5 and Appendices 2.1 and 2.2 of the NOFA as references. Second-tier project NEPA documents for projects within the program may also be included. A NEPA decision document (Record of Decision or Finding of No Significant Impact) is not required for an application but must be issued by FRA prior to award of a construction grant. Any eligibility documents should be listed in Section G.2 of this application.

Service Development Planning

Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input checked="" type="checkbox"/> Service Development Plan	<i>Various</i>	<input type="checkbox"/>	<p>The Authority's Service Development Plan is contained in the following three primary documents that are all available on the Authority's Website at the locations shown:</p> <p>2008 and 2009 Business Plans and Source Documents</p> <p>http://www.cahighspeedrail.ca.gov/library.asp?p=8200</p> <p>Implementation Plan</p> <p>http://www.cahighspeedrail.ca.gov/library.asp?topic=Implementation+Plan&region=&section=&y</p>

Service NEPA Documents

Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link

<input type="checkbox"/> Final Environmental Assessment (EA)	<i>mm/yyyy</i>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Final Environmental Impact Statement (EIS)	8/2005	<input type="checkbox"/>	http://www.cahighspeedrail.ca.gov/library/Default.aspx?ItemID=5834
FRA Decision Documents for Service Development Programs			
Documentation	Date (<i>mm/yyyy</i>)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input type="checkbox"/> Finding of No Significant Impact (FONSI)	<i>mm/yyyy</i>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Record of Decision (ROD)	11/2005	<input type="checkbox"/>	http://www.cahighspeedrail.ca.gov/library/Default.aspx?ItemID=5834
Documentation (select from the list of choices)	Date (<i>mm/yyyy</i>)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
Final Environmental Impact Statement (EIS)	8/2005	<input type="checkbox"/>	http://www.cahighspeedrail.ca.gov/library/Default.aspx?ItemID=5834
Final Environmental Impact Statement (EIS)	5/2008	<input type="checkbox"/>	http://www.cahighspeedrail.ca.gov/library/default.aspx
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	

C. Corridor Service Overview

Respond to the following questions to help put this application into the context of the long-term vision and related work for the HSIPR corridor service.

(1) Provide a brief narrative explaining how this Service Development Program relates to the long-term vision of the HSIPR corridor.

The California High-Speed Rail Authority (Authority) proposes to construct, operate, and maintain an electric-powered High-Speed Train (HST) system in California. When completed, the nearly 800-mile train system will provide new passenger rail service to California's major metropolitan areas and through the counties that are home to 93% of the state's population. More than 200 weekday trains are planned to serve the statewide intercity travel market. The HST will be capable of operating speeds of up to 220 miles per hour (mph), with state-of-the-art safety, signaling, and automated train control systems. The system will connect and serve the major metropolitan areas of California, extending from San Francisco in the north to San Diego in the south.

The purpose of the San Francisco to San Jose HST project is to implement the California HST system consistent with Tier 1 decisions by providing a reliable high-speed electrified train system that links San Francisco to San Jose, connects the San Francisco Bay Area to the rest of the statewide system, and delivers predictable and consistent travel times.

(2) List other HSIPR projects or activities related to this Service Development Program application. This includes any pending or selected planning, PE/NEPA, FD/Construction, and other Service Development Program activities or projects. The purpose of this list is to identify overlapping or complementary applications, programs, or projects. Click on the drop-down menu to select the FRA solicitation and to indicate if the project was previously selected.

	Project, Activity, or Service Development Program Name ¹	FRA Solicitation	Federal Funding Request (in thousands of dollars)	Status	Does This Project Include Activities That Overlap with Any Projects Included in This Service Development Plan Application?
1	CA-PHASE1HSRPROGRAM-PE/NEPA/CEQA	Track 2	\$ 194,000.00	Selected	No
2	CA-SF/SANJOSEHSR-DESIGN/BUILD	Track 2	\$ 980,000.00	Selected	No
3	CA-MERCED/FRESNOHSR-DESIGN/BUILD	Track 2	\$ 466,000.00	Selected	No
4	CA-FRESNO/BAKERSFIELDHSR-DESIGN/BUILD	Track 2	\$ 819,500.00	Selected	No
5	CA-LA/ANAHEIMHSR-DESIGN/BUILD	Track 2	\$ 2,187,500.00	Selected	No
6	Altamont Corridor Rail Project Service Development Planning and Service NEPA	FY10 Planning	\$ 4,930.00	Announcement Pending	No
7	CHSTP Phase 2 Los Angeles-San Diego (via Inland Empire)	FY10 Planning	\$ 6,355.00	Announcement Pending	No

¹ Please detail each activity for which HSIPR funding is being requested, or which is directly related to the Corridor Service. For example, if a related Track 1a Project application was already submitted, that application should be separately listed below. If the project covered by that same 1a application is also being submitted as an element of a Track 2 Program, indicate the program when listing the project.

	Service Planning				
8	CHSTP Phase 2 Merced-Sacramento Service Development Planning	FY10 Planning	\$ 5,330.00	Announcement Pending	No
9		Track 1a	\$	Announcement Pending	Yes
10		Track 1a	\$	Announcement Pending	Yes
11		Track 1a	\$	Announcement Pending	Yes
12		Track 1a	\$	Announcement Pending	Yes
13		Track 1a	\$	Announcement Pending	Yes
14		Track 1a	\$	Announcement Pending	Yes
15		Track 1a	\$	Announcement Pending	Yes
17		Track 1a	\$	Announcement Pending	Yes
18		Track 1a	\$	Announcement Pending	Yes
19		Track 1a	\$	Announcement Pending	Yes

D. Executive Summary

Answer the following questions about the proposed program.

- (1) Provide a Service Development Program name.** The Service Development Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation; (2) the route or corridor name; and (3) a Service Development Program descriptor that will concisely identify the program's focus (e.g., HI-Fast Corridor-Main Stem).

CA-SF/SANJOSEHSR-FY10-SDPIMPROVEMENTS

- (2) Indicate the appropriate corridor name where the Service Development Program is located and identify the start and end points as well as major integral cities along the route.**

The Caltrain Peninsula Corridor route between San Francisco and San Jose through 17 Peninsula cities including Millbrae, Burlingame, San Mateo, Palo Alto, Redwood City, and Mountain View, California. For this FY10 SDP grant application, which augments the redefined ARRA Track 2 scope for this Section, the portion of the corridor between Mountain View and Sunnyvale would be grade-separated and expanded from 2 to 4 tracks, the entire corridor between the 4th & King Station in San Francisco and the San Jose Diridon Station would be electrified, and a new HST station in Millbrae would be built, to facilitate intermodal connections to Caltrain, Samtrans, BART, and the San Francisco International Airport. (Please refer to the "Redefined San Francisco-San Jose Design-Build Section ARRA Track 2 Scope" document reference in Section G for further details.)

- (3) Indicate the anticipated duration, in months, for this Service Development Program (e.g., 36).**

Number of Months: 60

- (4) Indicate the anticipated funding information for the Service Development Program below.** This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. When the non-Federal match percentage is calculated, it must meet or exceed 20 percent of the total project cost.

Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total
\$ 1,000,000,000	\$ 429,172,000	\$ 1,429,172,000	30 %

- (5) Indicate the source, amount, and percentage of matching funds for the Service Development Program provided in Section C.4.** Identify supporting documentation that will allow FRA to verify the funding source. Click on the prepopulated fields to select the appropriate response from the list of choices. Also, list the percentage of the total project cost represented by each non-Federal funding source.

Non-Federal Funding Sources	New or Existing Funding Source?	Status of Funding ²	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
State GO Bond Proceeds	New	Committed	Cash	\$ 249,172,000	17 %	Safe, Reliable High-Speed Passenger Train Bond Act for the

² Reference Notes: The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (e.g., statutory authority) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or state capital investment program or appropriation guidance. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted (i.e., the funds have not yet received statutory approval). Examples include debt financing in an agency-adopted capital investment program that has yet to be committed in the near future. Funds will be classified as budgeted when available funding cannot be committed until the grant is executed or due to the local practices outside of the project sponsors control (e.g., the project development schedule extends beyond the State Rail Program period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's capital investment program.

				00		21 st Century
Local PCJPB contribution from San Francisco, San Mateo, and Santa Clara sales tax revenues	New	Committed	Cash	\$ 180,000,000	13 %	See: http://www.mtc.ca.gov/planning/rail/HSR_PeninsulaInvest_brief_6-24-09.pdf for details
	New	Committed	Cash	\$	%	
	New	Committed	Cash	\$	%	
	New	Committed	Cash	\$	%	

(6) Provide a project abstract outlining the Service Development Program. Briefly summarize the program in 4-6 sentences. Capture the milestones, outcomes, and anticipated benefits that will result from implementing the Service Development Program.

This FY10 HSIPR grant application, one of four submitted by the California High-Speed Rail Authority (Authority), builds on the ARRA Track 2 grant awarded in January 2010. Since no decision has yet been made as to which of the Authority's four ARRA-eligible Design/Build projects will be funded, the Authority has refined the scope of each of these eligible projects, described how operational independence would be achieved, and defined what the measurable benefits would be of each. An updated program scope, budget and schedule for the San Francisco-San Jose ARRA Track 2 Design/Build Section is attached. This application describes the operational benefits of the enhanced San Francisco-San Jose scope that could be achieved with additional HSIPR funding of this Section.

(7) Provide a Service Development Program narrative. Include the elements below when describing the main features and characteristics of the Service Development Program. Please limit the response to 12,000 characters.

- How this Service Development Program is organized into phases or groups of component projects.³ Include a description of the activities and the measurable outcomes of each phase or group of activities;
- The location(s) of the Service Development Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation);
- Substantive activities of the Service Development Program (e.g., specific improvements intended);
- Service(s) that would benefit from the Service Development Program, the stations that would be served, and the State(s) where the service operates;
- Anticipated service design of the corridor or route with specific attention to any important changes that the Service Development Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.;
- How the Service Development Program was identified through a planning process and how the Service Development Program is consistent with an overall plan for developing high-speed or intercity passenger rail service, such as a State Rail Plan or plans of local/regional metropolitan planning organizations;
- How the Service Development Program will fulfill a specific purpose and need in a cost-effective manner;
- Any use of new or innovative technologies;
- Any use of railroad assets or rights-of-way, and potential use of public lands and property;
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Service Development Program; and
- Any PE/NEPA activities to be undertaken as part of the Service Development Program, including but not limited to design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.

Following programmatic environmental review, the Authority and the Federal Railroad Administration (FRA) approved the CHST system for intercity travel in California, and selected corridors for project-level study. Building the 800-mile-long train system is of such magnitude, complexity, and cost that it is impractical to implement as a singular project. The Authority divided the HST system into nine project sections that can be designed, permitted, and constructed, and that allow for the phased implementation of the proposed system, consistent with the provisions of Proposition 1A, the Safe, Reliable, High-Speed Passenger Train Bond Act, adopted by California voters in November 2008.

³ The work to complete Service Development Programs can be organized into individual phases. Phases should produce meaningful and measurable service outcomes (e.g., trip time, frequency, or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

The purpose of the San Francisco to San Jose HST project is to implement the California HST system consistent with Tier 1 decisions by providing a reliable high-speed electrified train system that links San Francisco to San Jose, connects the San Francisco Bay Area to the rest of the statewide system, and delivers predictable and consistent travel times. The San Francisco to San Jose Section of the HST will connect to the San Jose to Merced Section over Pacheco Pass and from there to the Central Valley and Southern California sections of the statewide HST system. The San Francisco to San Jose Section will provide interfaces between the HST system and major commercial airports, mass transit, and the highway network of the San Francisco Peninsula and South Bay areas, and relieve capacity constraints of the area's existing transportation system in a manner sensitive to and protective of the San Francisco Bay Area's unique natural resources.

The Authority's statutory mandate is to plan, build, and operate a HST system that is coordinated with California's existing transportation network, particularly intercity rail and bus lines, commuter rail lines, urban rail transit lines, highways, and airports. The Authority has responded to this mandate by adopting the following objectives and policies for the proposed HST system:

- Provide intercity travel capacity to supplement critically over-used interstate highways and commercial airports.
- Meet future intercity travel demand that will be unmet by present transportation systems and increase capacity for intercity mobility.
- Maximize intermodal transportation opportunities by locating stations to connect with local transit, airports, and highways.
- Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel.
- Provide a sustainable reduction in travel time between major urban centers.
- Increase the efficiency of the intercity transportation system.
- Maximize the use of existing transportation corridors and rights-of-way, to the extent feasible.
- Develop a practical and economically viable transportation system that can be implemented in phases by 2020 and generate revenues in excess of operations and maintenance costs.

The approximately 50-mile-long San Francisco to San Jose Section is an essential component of the statewide HST system. It is the northern Bay Area terminus of the HST system, it will provide access to a new transportation mode, and as part of the statewide system it will contribute to increased mobility throughout California.

(8) Indicate the type of expected capital investments included in the Service Development Program. Check all that apply.

- | | |
|--|--|
| <input type="checkbox"/> New rail lines | <input type="checkbox"/> Rolling stock refurbishments |
| <input type="checkbox"/> Additional main-line tracks | <input type="checkbox"/> Rolling stock acquisition |
| <input type="checkbox"/> Structures (bridges, tunnels, etc.) | <input type="checkbox"/> Support facilities (yards, shops, administrative buildings) |
| <input type="checkbox"/> Track rehabilitation | <input type="checkbox"/> Grade crossing improvements |
| <input type="checkbox"/> Major interlockings | <input checked="" type="checkbox"/> Electric traction |
| <input checked="" type="checkbox"/> Station(s) | <input type="checkbox"/> Other (please describe): |
| <input type="checkbox"/> Communication, signaling, and control | |

(9) Indicate the anticipated service objectives for the Service Development Program for which you are applying. Check all that apply.

- | | |
|---|---|
| <input type="checkbox"/> Additional service frequencies | <input checked="" type="checkbox"/> Increases in operational reliability |
| <input type="checkbox"/> Improved on-time performance of passenger trains | <input type="checkbox"/> New service on new route |
| <input type="checkbox"/> Reroute existing service | <input type="checkbox"/> Service quality improvements |
| <input type="checkbox"/> New service on existing IPR route | <input checked="" type="checkbox"/> Increased average speeds/shorter trip times |
| <input checked="" type="checkbox"/> Increases in ridership | <input checked="" type="checkbox"/> Other (please describe): Electrification |

Briefly clarify your response(s) if needed:

ARRA Track 2-funded PTC and grade separations will improve vehicle and train safety; Caltrain electrification and HST Millbrae Station improvements will improve operational reliability, and provide increased average speeds/shorter trip times. Designing for a maximum speed of 125 mph for both Caltrain and new HST services.

(10) If appropriate, subdivide the Service Development Program into phases (groups of projects) and identify each phase on separate rows of the table.⁴ Detail the service benefits to be realized after completion of each phase on the corresponding row. At the bottom of the table, provide the anticipated service benefits upon completion of the entire Service Development Program. Use as many rows as necessary; if the Service Development Program cannot be subdivided, summarize the information for the entire Service Development Program in the first row.

Phase	Title ⁵	Frequencies ⁶		Scheduled Trip Time (in minutes)		Average Speed (mph)		Top Speed (mph)		Reliability – Provide Either On-Time Performance Percentage or Delay Minutes	
		Current	Future	Current	Future	Current	Future	Current	Future	Current	Future
I.											
II.											
III.											
IV.											
V.											
VI.											
VII.											
VIII.											
Provide the Cumulative Service Outcome (Aggregate Benefits of all Phases)											

⁴ The work to complete Service Development Programs can be organized into individual phases. Each phase should produce meaningful and measurable service outcomes (e.g., trip time, frequency, and/or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

⁵ Title should be a brief descriptive name for the phase.

⁶ Frequency is measured in daily one-way train operations. One daily round-trip operation should be counted as two daily one-way train operations.

(11) Provide information on the component projects within each phase of the Service Development Program identified in Section D.10 above. For each phase, please list all the projects in the sequence they will be completed. This section is unlocked- the applicant can add rows as needed for additional projects and phases.

PHASE I.		[Insert Title from Section D.10]
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
Phase I. Total Cost		\$ 000

PHASE II.		[Insert Title from Section D.10]
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
Phase II. Total Cost		\$ 000

PHASE III.		[Insert Title from Section D.10]
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
Phase III. Total Cost		\$ 000

PHASE IV.		[Insert Title from Section D.10]
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
Phase IV. Total Cost		\$ 000

E. Response to Evaluation Criteria

Provide a separate response to the following evaluation criteria to demonstrate how the proposed Service Development Program will achieve each criterion.

(1a) Potential Transportation Benefits

Demonstrate the potential of the proposed Service Development Program investment to achieve transportation benefits in a cost-effective manner:

- Supporting the development of intercity high-speed rail service;
- Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership (as measured in passenger miles), increases in operational reliability (as measured in reductions in delays), reductions in trip times, additional service frequencies to meet anticipated or existing demand, and other related factors;
- Generating cross-modal benefits, including anticipated favorable impacts on air or highway traffic congestion, capacity, or safety, and cost avoidance or deferral of planned investments in aviation and highway systems;
- Creating an integrated intercity passenger rail network, including integration with existing intercity passenger rail services, allowance for and support of future network expansion, and promotion of technical interoperability and standardization (including standardizing operations, equipment, and signaling);
- Encouragement of intermodal connectivity and integration through provision of direct, efficient transfers among intercity transportation and local transit networks at train stations, including connections at airports, bus terminals, subway stations, ferry ports, and other modes of transportation;
- Enhancing intercity travel options;
- Ensuring a state of good repair of key intercity passenger rail assets;
- Promoting standardized equipment (or rolling stock), signaling, communications, and power;
- Improved freight or commuter rail operations in relation to proportional cost-sharing (including donated property) by other benefiting rail users;
- Equitable financial participation in the project's financing, including, but not limited to, consideration of donated property interests or services; financial contributions by freight and commuter rail carriers commensurate with the benefit expected to their operations; and financial commitments from host railroads, non-Federal governmental entities, nongovernmental entities, and others;
- Encouragement of the implementation of positive train control (PTC) technologies (with the understanding that 49 U.S.C. 20147 requires all Class I railroads and entities that provide regularly scheduled intercity or commuter rail passenger services to fully institute interoperable PTC systems by December 31, 2015); and
- Incorporating private investment in the financing of capital projects or service operations.

The San Francisco-San Jose HSIPR plus ARRA base program is an integral part of the State-wide HST program to develop a new intercity passenger rail (IPR) service not provided today, with over 200 trains per day in 2035, carrying up to 100 million passengers statewide. Of these, approximately 50 million will be carried in Phase 1. Major benefits for mobility, economic activity, air quality, and land use development will be created, as documented in the 2005 California HST Statewide Program EIS/EIR and the 2008 Bay Area to Central Valley Program EIS/EIR.

In the short term, and in and of themselves, the grants requested will provide an opportunity to speed up and improve safety for the Caltrain Peninsula service and its intercity users even in the event of delay in implementation of the HST services. The program will build track and structure for HST trains, as well as current Caltrain services and electrify the power source of the trains, relieving the need for fossil-fueled locomotive operations, and allowing faster speeds and more reliable service at speeds up to 110 mph. The program will fully grade separate the high-speed portions of the line, and reduce rail and road exposure to accidents at grade crossings. The program will install positive train control technology on the line to allow safe and efficient operation.

OPERATIONAL INDEPENDENCE AND UTILITY -- IMPROVED CALTRAIN TRANSPORTATION BENEFITS

Caltrain services running on the program's infrastructure would provide the State's first true 110 mph high-speed intercity rail service. At these speeds and with these improvements, trains from metro San Francisco to metro San Jose could save roughly 10 minutes compared to current trip times.

As a result of an increase of nine round trips foreseen in the Caltrain improvement plans and forecast growth in the

State, riders are anticipated to increase by 5,000,000 in the year 2018. The additional improvements from the ARRA / HSIPR program will generate another 100,000 passengers in the same year. Ridership will grow to 19.3 million passengers by the tenth year of operation, a 90% increase over today. The 2028 services will increase passenger miles by a similar percentage and 190 million passenger miles from today.

The full grade separation of the alignment from crossing road traffic is the most important safety improvement to the transportation system growing from this investment. It will improve safety for road users and rail passengers and personnel alike.

The higher speed and reliability and higher frequencies will increase revenues as well as the proportion of operations cost covered by passenger fares to 83% from 52% today.

FULL HST SYSTEM TRANSPORTATION BENEFITS

The California HST Full System will build nearly 800 miles of new rail infrastructure separated from vehicular road traffic and conventional freight and passenger trains, allowing operations at up to 220 mph of state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, including state-of-the-art train control and communications systems. Safety and reliability of intercity passenger service in California will be significantly improved.

The California HST itself will be the primary expansion of intercity passenger rail service by:

- creating direct through IPR service from San Diego, Orange County, Riverside, and Los Angeles counties to the Central Valley, Sacramento, and the Bay Area extending the network from Los Angeles to San Diego by way of the Inland Empire
- extending the IPR direct service network up the San Francisco Peninsula to serve San Mateo and San Francisco counties
- Providing vastly improved travel times/capacity/frequency of service.

The California HST will also reinforce and improve elements of the existing IPR service. These include:

- providing an overlay of express high-speed IPR service along the route of the existing San Joaquin services from Bakersfield to Sacramento
- providing an overlay of express high-speed IPR service from Anaheim to Burbank along the route of existing Surfliner services
- expanding passenger demand at existing IPR stations, creating the base for expanded intermodal opportunities, including rail and bus transit, shuttle, and taxi services, (Anaheim, Norwalk/Fullerton, Los Angeles Union Station, Burbank, Bakersfield, Fresno, Merced, Modesto, Stockton, Sacramento, and San Jose).

The California HST will provide on-time performance of nearly 100% (arrival at end point stations within 10 minutes, standard applied to Acela, regardless of distance) based on experience with European and Japanese operations that are completely grade-separated and on new infrastructure, as will be the case with the California HST. The intermediate point punctuality will be very high as well, with delays per 10,000 train miles estimated at under 66 minutes, equivalent to a cumulative 3-minute delay from scheduled arrivals at all intermediate points on a Los Angeles – San Francisco run and less than the normal schedule allowance for end point arrival. These are major improvements over existing IPR service in the US, where the Acela is 90% on time and the Northeast Corridor, the best ranked host railroad, experiences over 600 minutes in train delay per 10,000 train miles.

The California HST will decrease the cost and time of travel for all markets served. For the 75% of passengers attracted from driving, the California HST will save half or more of the trip time; in the example of the LA Basin to San Joaquin Valley market, the 8.3 million yearly riders, nearly all drawn from auto, will save over 1 billion minutes of travel time. And the 2005\$ cost of the HST trip in this market of around \$40 is also below the driving cost of around \$50, saving around \$80 million per year.

The most telling indicator of the extent to which the California HST will improve IPR service is that the forecast passenger revenues will exceed the operating and maintenance costs, as is the case in high-speed services around the world, including the Acela service, which in May 2009 generated a surplus of \$52 million in revenue over fully allocated O&M costs excluding depreciation and interest. The forecast surplus in 2035 for the Full System is over \$2 billion (2008\$).

(1b) Other Public Benefits

Describe the potential and actual contributions the proposed Service Development Program would make toward achieving transportation benefits in a cost-effective manner:

- Environmental quality and energy efficiency and reduction in dependence on foreign oil, including use of renewable energy sources, energy savings from traffic diversions from other modes, employment of green building and manufacturing methods, reductions in key emissions types, and the purchase and use of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment;
- Promoting interconnected livable communities, including complementing local or state efforts to concentrate higher-density, mixed-use, development in areas proximate to multi-modal transportation options (including intercity passenger rail stations);
- Improving historic transportation facilities; and
- Creating jobs and stimulating the economy. Although this solicitation is not funded by the Recovery Act, these goals remain a top priority of this Administration. Therefore, Service Development Program applications will be evaluated on the extent to which the project is expected to quickly create and preserve jobs and stimulate rapid increases in economic activity, particularly jobs and activity that benefit economically distressed areas, as defined by section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161) ("Economically Distressed Areas").

Environmental and Energy Benefits

The Full System high-speed train program will reduce oil consumption by 12.7 million barrels of oil per year in 2030. As documented in the Bay Area – Central Valley Program EIS/EIR, this is the savings from diverting air and auto passengers to the electrified HST, which is anticipated to be powered entirely from renewable sources. The California High-Speed Rail Authority Board has adopted the goal of relying on renewables, and the industry is expected to develop sufficient capacity and reliability to provide power from renewables to the HST service at a relatively small premium to fossil fuel sourced power. (See Navigant Consulting, "The Use of Renewable Energy Sources to Provide Power to California's High Speed Rail", May 2008 on www.cahighspeedrail.gov).

Phase 1 will contribute oil consumption savings of roughly 8.9 million barrels (bbls), proportional to the HST passenger miles carried, or 70% of the 21.8 billion passenger miles of the Full System.

Scaled to the expected traffic levels of the HST system as it opens, savings of oil will be:

First full year of operation:	4.5 million bbls	(Phase 1, 2020)
Fifth year:	8.0 million bbls	(Phase 1, 2025)
Tenth year	12.7 million bbls	(Full System, 2030)

The same shift of travelers from air & auto to the HST & reductions in fossil fuel consumption will reduce greenhouse gas & other pollutant emissions in the year 2030, the tenth year of assumed operation. CO₂ reductions of 12 billion pounds in 2030 air & auto emissions are documented in the EIR/S from the HST Full System operation. Additionally reductions in carbon monoxide (35 tons/day), particulate matter (2.5 & 10 micron) (4 tons/day), NO_x (9 tons/day) and total organic compounds (5 tons/day) are shown in the EIS/EIR, generating benefits rated at "medium", equivalent to several percent of the State's total inventory, even if the HST electricity needs were generated with a substantial amount of fossil fuel. The reductions would be 35% of these amounts in the first full year of operations, and in the fifth year 60%. Phase 1 will reduce CO₂ emissions by 8.4 billion pounds annually, and the other emissions reductions would also be roughly 70% of those with the Full System.

In the interim case where Caltrain alone would operate on the HS segment because of delay to the HS project, the shift of additional travellers out of automobiles to Caltrain because of the investment will favorably reduce emissions, energy consumption, and dependence on foreign oil.

Livable Communities

As part of its environmental sustainability program, the Authority has made a commitment to build its high-speed train system in a way that encourages higher density development around its stations so that it is successfully integrated and woven into the surrounding urban landscape. While actual land use decisions will be made by local communities and the real estate market, the Authority will utilize its resources, both financial and otherwise, to encourage development patterns around its stations to include: higher density development in relationship to the existing pattern of development in the surrounding area; a mix of land uses (e.g., retail, office, entertainment, residential); a street pattern and design that promotes walking, bicycling and transit access; the use of context sensitive building design that considers the continuity of building sizes and architectural detailing; and limits on the amount of parking for new development and a preference that station parking be placed in structures.

Most of the stations will serve as multi-modal transportation hubs and be located in downtown areas, either within the central business district or in a nearby location. Successful transit systems share one common trait—excellent pedestrian access. Since transit works best when stations and shops are easily accessible and surrounded by places that people like to visit, the Authority will work with local communities to establish strong, well defined pedestrian and bicycle linkages to downtown areas and other public transit. This will help increase the number of transit patrons and the overall vitality of the surrounding community.

All of the high-speed rail stations will provide access to local bus services and many of the stations will also provide access to local, commuter, and intercity rail services. Since transit system connectivity is important for encouraging ridership, the high-speed stations will include such features as kiosks with transit schedules and fare information, way-finding signage, and the use of real-time technology with train arrival and departure information. These elements are all designed to promote a convenient and “seamless” transit system by reducing travel times, providing more reliable connections, and making it easier to pay so that transfers from the high-speed rail system to other transit modes can occur as safely and easily as possible.

Jobs and the Economy

The Fresno/Bakersfield HSR Design/Build Corridor Program will invest \$4,740 million in year of expenditure dollars (YOES), creating an estimated 61,500 full time equivalent jobs over six years. Approximately 87% of the spending will go to design and construction of the infrastructure and track, creating an estimated 20,400 full time equivalent jobs over the period 2012 to 2017. The other roughly 13% of the funds will be spent in acquiring the necessary rights of way whose direct job creation will be much smaller, estimated at enough to round the direct job creation to 20,500. The estimated peak of direct employment, around 5,660 FTE jobs, will occur in 2014.

The large majority of these direct jobs will be for construction in counties that are considered Economically Distressed Areas (EDAs), i.e. those counties which have had 24 sequential months of unemployment 1% or more higher than the national average, or in which the per capita income is 80% or less than the national average, both based on end of year 2008 data. The four EDAs within which the construction will take place and their July 2009 unemployment rates are the counties of Fresno (15%), Kings (14.5%), Tulare (15.3%), and Kern (14.4%). Additional workers will be drawn from the eight surrounding economically distressed counties in the Central Valley & Sierra Foothills with unemployment running at 12% or more in July 2009: Stanislaus (16.7%), San Joaquin (16.0%), Calaveras (14.2%), Tuolumne (12.7%), Sacramento (12%), San Benito (12.7%), Kings (14.5%), Tulare (15.3%), and Kern (14.4%). Workers may also be drawn from the high desert portions of adjacent San Bernardino County EDA (13.9%) .

The 20,500 direct design/construction jobs will create an estimated further 41,000 jobs. Half will be with suppliers of materials, equipment, and services to the construction and related activities, spread across California, the West, and to a lesser extent the rest of the US, North America, and overseas. The other half of the job creation will be strongly focused on the Central Valley, on California, and in the Western US, created from the spending of the paychecks of those designing, building, and supplying the high-speed line.

Ongoing operations jobs will begin to be created somewhat prior to the completion of enough high-speed infrastructure in addition to the Fresno-Bakersfield Corridor Program to test and safety-certify the first high-speed trainsets. At this point operations and maintenance hiring would begin for personnel to become the trainers and supervisors for the operational system, and would ramp up as the testing intensified and as revenue service start approached.

Operation of Phase 1 System service will create a strong economic stimulus from the improvements in transportation efficiency. Scaling from the estimates in the 2005 Statewide Program EIS/EIR (see Chapter 5) of an additional

450,000 jobs in year 2035 from the full system's operation, Phase 1 System operations could provide half to 2/3 of that jobs stimulus or 225,000 to 300,000 permanent jobs by 2035. Around 4,000 of them would be from the operation and maintenance of the high-speed train itself, a smaller number of jobs would be created in the supply and service industry, and the great majority of new jobs would be in the broader economy.

Much of the new permanent job creation will occur in California's EDAs. Operations and maintenance jobs will be created more heavily in the Central Valley, historically less economically developed than the rest of the state, and the location of the planned heavy maintenance facility which will have around 1,000 employees, a large proportion of them skilled mechanical and electrical equipment personnel.. In particular the EDAs of Kings, Kerns, Madera, Merced, San Joaquin, Stanislaus, & Tulare, all with July 2009 unemployment of 13.9% or more, will attract a disproportionate share of the benefits as access improves from the HST operation made possible in part by the completion of the Corridor Program.

Operation of the Amtrak service on the HS segment in the event that the HS project were delayed would also increase ongoing employment and economic activity for the State and the Central Valley, although to a lesser extent.

Jobs and the Economy

The SF/San Jose HSR Design/Build corridor program will invest \$4,739 million in year of expenditure dollars (YOES), creating an estimated 78,000 full time equivalent jobs over seven years. Almost all of these funds will go to design and construction of the infrastructure and track, and in installing core systems, creating an estimated 25,900 full time equivalent jobs over the period 2012 to 2018. The 1% of funds for acquiring easements and rights of way have a much smaller direct job creation, estimated at enough to round the direct job creation to 26,000. The estimated peak of direct employment, around 5050 FTE jobs, will occur in 2015.

While the counties in which the construction will take place are not considered formal Economically Distressed Areas (EDAs), their unemployment rates in July 2009 were at or above 9%: San Francisco (9.9%), San Mateo (9.0%), and Santa Clara (11.7%). Workers will also be drawn from the five surrounding economically distressed counties with unemployment running at 10-17%: Stanislaus (16.3%), San Joaquin (16.0%), Merced (17.6%), San Benito (12.7%), and Santa Cruz (10.8%).

The 26,000 direct design/construction jobs will also create an estimated further 52,000 jobs. Half will be with suppliers of materials, equipment, and services to the construction and related activities, spread across California, the West, and to a lesser extent the rest of the US, North America, and overseas. The other half of the job creation will be strongly focused on the Central Valley, on California, and in the Western US, created from the spending of the paychecks of those designing, building, and supplying the high-speed line.

Ongoing operations jobs will begin to be created somewhat prior to the completion of enough high-speed infrastructure in addition to the San Francisco – San Jose Corridor Program to test and safety-certify the first high-speed trainsets. At this point operations and maintenance hiring would likely begin for personnel to become the trainers and supervisors for the operational system, and would ramp up as the testing intensified and as revenue service start in 2020 approached.

Operation of Phase 1 service will create a strong economic stimulus from the improvements in transportation efficiency. Scaling from the estimates in the 2005 Statewide Program EIS/EIR (see Chapter 5) of an additional 450,000 jobs in year 2035 from the full system's operation, Phase 1 operations could provide half to 2/3 of that jobs stimulus or 225,000 to 300,000 permanent jobs by 2035. Around 4,000 of them would be from the operation and maintenance of the high-speed train itself, a smaller number of jobs would be created in the supply and service industry, and the great majority of new jobs would be in the broader economy.

Much of the new permanent job creation will occur in California's EDAs. Operations and maintenance jobs will be created more heavily in the Central Valley, historically less economically developed than the rest of the state. In particular the EDAs of Kings, Kerns, Madera, Merced, San Joaquin, Stanislaus, & Tulare, all with July 2009 unemployment of 13.9% or more, will attract a disproportionate share of the benefits as access improves from the HST operation made possible in part by the completion of the Corridor Program.

Operation of the Caltrain service on the HS segment in the event that the HS project were delayed would also increase ongoing employment and economic activity for the State and the Bay Area, although to a lesser extent.

(2) Sustainability of Benefits

Identify the likelihood of realizing the proposed Service Development Program's benefits, including:

- The quality of a Financial Plan that analyzes the financial viability of the proposed rail service;
- The quality and reasonableness of revenue and operating and maintenance cost forecasts for the benefiting intercity passenger rail service(s);
- The availability of any required operating financial support, preferably from dedicated funding sources for the benefiting intercity passenger rail service(s);
- The quality and adequacy of project identification and planning;
- The reasonableness of estimates for user and non-user benefits for the project;
- The reasonableness of the operating service plan, including its provisions for protecting the future quality of other services sharing the facilities to be improved;
- The comprehensiveness and sufficiency, at the time of application, of agreements with key partners (including the railroad operating the intercity passenger rail service and infrastructure-owning railroads) that will be involved in the operation of the benefiting intercity passenger rail service, including the commitment of any affected host-rail carrier to ensure the realization of the anticipated benefits, preferably through a commitment by the affected host-rail carrier(s) to an enforceable on-time performance of passenger trains of 80 percent or greater;
- The favorability of the comparison between the level of anticipated benefits and the amount of Federal funding requested; and
- The applicant's contribution of a cost share greater than the required minimum of 20 percent.

The likelihood of realizing the benefits of the Service Development Plan depends on many macro-economic, political, geological and other variables outside of the control of the High-Speed Rail Authority, as well as accurate and current data on California travel patterns, costs of alternatives, analytical rigor, and realism about future assumptions. The planning has been reasonably conscientious in all of these areas, leading to a reasonable likelihood within the constraints of non-controllable events of realizing the Service Development Plan, whether in the full system deployment, or the contingency of Amtrak operating on the HST section, were the HST project to be delayed.

Quality of Financial Plan

The reasonableness of the several critical components of the Financial Plan, including the revenue and operating cost forecasts, and (where needed) the availability of financial operating support, are discussed in the following sections. The quality of the Financial Plan is sufficient to support the financial results of both the HST service and of interim Amtrak service operating on the HST section, if the HST project were to be delayed. Furthermore, the Authority and its consultants have extensively analyzed the opportunities for funding the rest of the \$42.5 B California High-Speed Train Project, accessing a number of funding and financing sources, including further federal grant funding, federal innovative finance programs, local funding support, and private funding. The latter may be a combination of senior non-recourse debt, junior or mezzanine capital and private equity, provided by a concessionaire involved in a public-private partnership with the CAHSRA. This plan is detailed in the December 2009 Business Plan submitted to the state legislature and can be accessed at: <http://www.cahighspeedrail.ca.gov/library.asp?p=8200>. Numerous discussions with government officials and over 50 "expressions of interest" from private companies give confidence that the financial plan is reasonable. However, as discussed, there are a number of challenges in obtaining all of the funding and as described the risk and risk mitigation section as part of this application, the CAHSRA has devised appropriate ways to overcome these financial risks.

Specifically in regards to the section the funding for which the CAHSRA is currently applying, the Authority has high confidence that the key funding sources, from the state bond monies, other local and other state contributions are available. With the available federal grant monies made available through the ARRA and 2010 legislation, the Authority will be able to complete the proposed technical scope in this application, should it be successful in receiving the requested grant amounts.

Quality and Reasonableness of Revenue and Operating Cost Forecasts

Revenue and ridership forecasts for the full CA HST system are derived from a state-of-the-art network-based model developed for the San Francisco Bay Area Metropolitan Transportation Commission, with the cooperation of the California High Speed Rail Authority (CAHSRA). The quality, detail, and effort of the data collection, model validation and calibration, and the peer review process to which the work was submitted are explained on the

CAHSRA site at: <http://www.cahighspeedrail.ca.gov/library.asp?p=6116>.

Full system operating costs are based on forecast service activity and are driven by pertinent variables such as trainset miles, US railroad labor costs, documented power consumption for HST trainsets, California energy costs (including surcharges for green energy), station staffing, HST trainset maintenance labor and materials costs, maintenance of way requirements for passenger only HST lines, and US administrative, management, and insurance requirements. They are based on an appropriate mix of overseas HST experience and California conditions and cost.

The revenues and costs for the contingency event of only Caltrain service operating on the section requested to be funded by this grant, if the HST project were delayed, are estimated from recent revenues and costs of Caltrain service and future estimates for the services from Caltrain. Variances are estimated from changes in run time calculated from train performance models with contingent recovery time added, and ridership sensitivities to run time from published professional research, applied to only a portion of the corridor ridership with revenue affected by the improved run times. These forecasts are of reasonable quality for such a contingency event.

Availability of Financial Support for Operations

The full 220 mph California HST system will not require financial support for operations, as is the case in high-speed services around the world, including at the lower end of the speed range, the 135 mph Acela service, which in May 2009 generated a surplus of \$52 million in revenue over fully allocated O&M costs excluding depreciation and interest. The forecast surplus in 2035 for the full system is over \$2 billion (2008\$).

In the event of operations by Caltrain only on the section requested to be funded by this grant in the event the HST project is delayed, the operating subsidy that would be provided for service on the current route (currently provided by various regional and State sources) will be reduced. This is because of the faster operations that will attract more passengers, generate more revenue, and reduce operating costs, ultimately increasing the farebox recovery ratio.

Quality and Adequacy of Project Identification and Planning

Planning for the full California HST system, for which the current grant request is a key component, has been ongoing for 15 years, with increasingly stringent scrutiny of plans, alignments, station stops, operability, costs, ridership and revenue, and benefits to the State from Federal and other State agencies, local governments, and a wide range of stakeholders culminating in the approval of Program EIR/EISs in 2005 and 2008, the approval by California voters of \$9 billion for funding the HST system, and continuing with project-level environmental work now underway. This project is solidly based in the planning for the future transportation system of the State.

Planning for a situation in which Caltrain only operates on the section in the event the HST project is delayed has had less scrutiny, but is a small improvement of approved plans for the Caltrain corridor. Caltrain has been consulted and agrees that the approach is reasonable. This is believed to be adequate for the contingency nature of this plan.

Reasonableness of Project Benefits

The benefits of the full California HST system were estimated by professional, respected economists and modelers, and have been judged to be sufficiently credible to be included in the Program EIR/EIS work approved by the US Department of Transportation's Federal Railroad Administration and the State of California's High Speed Rail Authority. They also led to the passage of Proposition 1A in California's November 2008 election, providing \$9 billion of State bonding authority for construction of the California HST system.

In the case of operations by Caltrain only on the section in the event the HST project is delayed, the project benefits are estimated from realistic evaluation of possible improvements to service. These include current Caltrain plans included in the EIR/EIS for electrification, estimates of faster running time from Parson Brinkerhoff's run time simulator using current Caltrain consists and the future HST alignment profile, and estimates of travel response using published elasticities to intercity rail time savings.

Reasonableness of the Operating Service Plan

For the full California HST system, the close coordination between the ridership forecast and the operating service plan, the sizing of the trainset fleet, storage facilities, track capacity for the completely separated HST system, and station sizing and parking requirements is described in the CAHSRA 2009 Report to the Legislature and the April 2010 addendum, both available on the Authority website at: <http://www.cahighspeedrail.ca.gov/library.asp?p=8200>.

The HST plan does not involve sharing facilities with freight services except sharing a right-of-way on the San Jose-

San Francisco Peninsula, in a temporally separated manner. Sharing with other passenger services is planned to be contingent on sufficient track and station capacity, compliance with regulatory requirements, and is eminently reasonable.

For operations by Caltrain alone on the section in the event the HST project is delayed, the operating service plan is taken directly from Caltrains plans. The current service operates well, with high on-time performance, and enough capacity to meet demand. The speeding up of this corridor, and improvements to reduce grade crossings and other intrusions on the right of way will increase capacity and improve reliability, and is eminently reasonable.

Agreements with Key Partners

For the full California HST system, the Authority's powers, relations with other, regulatory agencies, MOU's with local and regional government and private entities and the expected relationship of the HST project with existing transportation providers and owners, and approach to project delivery is extensively discussed in the CHSRA December 2009 Report to the Legislature and the April 2010 addendum, both available on the Authority website at: <http://www.cahighspeedrail.ca.gov/library.asp?p=8200>.

For operations by Caltrain only on the section in the event the HST project is delayed, the existing institutional arrangements would not need to change.

Comparison of Anticipated Benefits and Amount of Federal Funding Requested

For the full California HST system at 2030 levels, federal capital expenditures will have created an estimated \$11 billion in direct annual benefits to its riders, to drivers and air passengers who experience less congestion, and to the State as a whole in pollution reduction and accident reduction. In five years of operation, the benefits will exceed the cost of building the line and operating it. In economist's terms, California will realize \$150 billion in present value of net benefits by 2050—nearly triple the total present value of the cost of the project. Not only will high-speed train passengers benefit from the system, more than a third of the benefits will be accrued by air and auto travelers in the form of reduced delays, reduced air pollution, and reduced auto accidents and fatalities.

For operations by Caltrain only on the section in the event the HST project is delayed, interim benefits will be accrued of San Joaquin run times more than an hour faster than today, a 67% increase in rail passengers, an increase in passenger miles and revenues of 85%, and an improvement in the farebox ratio from 43% today to 61%, assuming fares only rise with inflation. Separate corridors for the passenger and freight rail services over 130 miles in the Central Valley will increase road and rail safety, and reduce rail congestion. These interim benefits will not be as great as those from the full high speed system, but they represent a strong benefit and boost to rail services in the corridor.

State Contribution over 20%

The proposed cost sharing of 30% of the HSIPR cost by the State and Caltrain, and 50% of the ARRA grant, will result in a contribution of over \$2 billion in funds to match the federal grant, well in excess of the required amounts for either program.

(3) Project Delivery Approach

Describe the risk associated with delivery of the Service Development Program within budget, on time, and as designed:

- The applicant's financial, legal, and technical capacity to implement the project, including whether the application depends upon receipt of any waiver(s) of Federal railroad safety regulations that have not been obtained;
- The applicant's experience in administering similar grants and projects, including a demonstrated ability to deliver on prior FRA financial assistance programs;
- The soundness and thoroughness of the cost methodologies, assumptions, and estimates for the proposed project;
- The reasonableness of the schedule for project implementation;
- The thoroughness and quality of the Project Management Plan;
- The timing and amount of the project's future noncommitted investments;
- The overall completeness and quality of the application, including the comprehensiveness of its supporting documentation;

- The adequacy of any completed engineering work to assess and manage/mitigate the proposed project's engineering and constructability risks;
- The sufficiency of system safety and security planning;
- The project's progress, at the time of application, towards compliance with environmental protection requirements;
- The readiness of the project to be commenced; and
- The timeliness of project completion and the realization of the project's anticipated benefits.

The California High-Speed Authority has previously provided significant detail on its statutory basis, budgets, capacity to implement a high speed rail system, timing of investments and operation, progress on environmental clearance, and related implementation issues in its ARRA Track 2 applications of October 2009, in the December 2009 Report to the Legislature, and the April 2010 Addendum to the Report to the Legislature. (The latter two documents can be found on the Authority's website www.cahighspeedrail.ca.gov at the following links: http://www.cahighspeedrail.ca.gov/images/chsr/20091223222521_CHSRA_Business_Plan_Dec_2009.pdf and http://www.cahighspeedrail.ca.gov/images/chsr/20100427185725_Business%20Plan%20ADDENDUM%20-%202004.13.2010%20-%20FINAL.pdf. The discussion below summarizes the salient points responding to the criteria listed above.

The California High-Speed Rail Authority (the Authority) is a state entity and has been given the responsibility to develop a high-speed train system (HST) in the State of California pursuant to Chapter 796 of the Statutes of 1996 (Senate Bill 1420, Kopp and Costa). The Authority is tasked to prepare a plan and design for the HST system, conduct environmental studies and obtain necessary permits, and undertake the construction and operation of a high-speed train passenger network in California. As part of its mission and role within the State government, the Authority goes through a normal annual budget process consistent with other state transportation agencies. In addition to general fund appropriations, the California voters passed Proposition 1A, the Safe, Reliable High-Speed Passenger Train Bond Act on November 4, 2008 which allows for the issuance of \$9 billion in general obligation bonds be issued to establish a clean, efficient high-speed train service linking Southern California, the Sacramento San Joaquin Valley, and the San Francisco Bay Area. Proposition 1A bond act allocations are subject to annual budget authorizations.

The Authority has a 9-member board and a core staff to implement the project which consists of an Chief Executive Officer, Deputy Directors, Chief Engineer, Project Management Oversight, Finance, Government Relations and a support staff that includes the Program Management Team (PMT). The California Attorney General's office provides legal support on all matters including review of environmental deliverables including the Final Environmental Report (EIR) and the Notice of Determination (NOD) for the Authority. The CHSTP also directly involves the FRA who is the federal lead agency under NEPA responsible for technical and legal review of the regional project EISs. All environmental deliverables up to and including the Final EIS and Record of Decision (ROD) will be subject to FRA review and approval.

In 2006, the Authority contracted the services of a PMT, Parsons Brinckerhoff, to oversee and manage the CHSTP. This includes development of engineering design criteria and standards to guide the design, construction and operation of the project. The PMT provides complete program-level management and oversight of 8 regional consulting firms (RCs) who are performing the detailed planning, preparing the project-level environmental documents and performing the preliminary engineering. The RCs performing this work in the Fresno-Bakersfield section is URS/HatchMottMcDonald/Arup.

Key leaders on the project's implementation include Roelof van Ark, the Authority's Chief Executive Officer (July 2010-present), with 30 years of engineering and executive leadership at major transportation systems companies in the US, Europe, and South Africa; Anthony Daniels, Program Director (2006-present), leading the Program Management Team, with more than 40 years of HST project management and high-speed rail experience in the UK, US, and Taiwan; and John Harrison, Deputy Program Director (2009-Present), directing the eight RCs, bringing more than 40 years of intercity rail, rail transit, and HST project management experience in the US and Taiwan.

More than 400 persons are involved in the planning and engineering of the CHSTP, including more than 135 senior managers, planners, engineers, and operators with significant project work on one or more of the HST projects in Europe and Asia, as well as the Northeast Corridor. Experts on this project have guided the planning, construction and/or operation of HST systems around the world representing hundreds of billions of dollars in infrastructure development.

CHSRA is working closely with FRA's Office of Safety to develop the basic framework for a Rule of Particular Applicability, building on European Union high-speed rail Technical Specifications and also incorporating other elements FRA believes should be addressed for the California HST system operation at speeds up to 220 mph. Filing of a RPA is anticipated by 12/2010, with concurrent filing as

necessary before CPUC. The Authority is working collaboratively with the FRA Office of Safety staff to progress all necessary discussions and technical foundation necessary to achieve this timetable.

The Authority has grown in the last five years from a small staff managing several consultant teams with an annual budget of \$3 million to a staff of twenty with a robust program management oversight team managing expenditures of \$139 million in FY 2010 and the work of a dozen major contracts. The Authority has added project delivery and contract administration staff from Caltrans and other State agencies, engaged a CEO with strong managerial experience, and is building the structures and staff ing resources needed for major project implementation. Pages 12-24 of the Authority's December 2009 Report to the Legislature provide detail on the steps being taken and foreseen to build an organization fully capable of managing the construction of the project.

Key staff of the Authority, Program Management Team, Parsons Brinckerhoff, and the Program Management Oversight Consultant, T.Y. Lin, have considerable experience in managing major Federal grants from the FHWA and FTA and are familiar with Federal requirements. The Authority and its consultants have successfully worked with the FRA to complete major program environmental documents and are working to develop a Rule of Particular Applicability to govern the HST project design and operation.

Further information on the planned approach to the project's implementation is further explained in the Authority's December 2009 Report to the Legislature pp. 42-51.

The capital cost estimates are based on preliminary engineering work (in-progress 15% design submittals) being performed in support of project-level EIS/EIR work in each of the segments. Unit costs are provided for 77 categories of cost and quantities are being estimated by each Regional Consultant Team, and reviewed by the Program Management Team. An overview of the major methodologies and assumptions is provided in the Authority's December 2009 Report to the Legislature pp. 84-91. For the current estimates, however, unit costs have been updated to reflect current 2010 expectations. The approach is reasonable, detailed, and includes appropriate contingencies for the level of uncertainty in the design. Further information on capital cost contingencies and risk management was also provided in the 2010 Addendum to the 2009 Report to the Legislature.

The approach to estimating operating costs was summarized in the previous section. More detail on the full system HST costing and operations planning is at pp. 80-83 of the 2009 Report to the Legislature.

The schedule for project implementation has been developed in detail, working with the FRA on reasonable time frames for achieving EIR/EIS certification (NOD/ROD), recognizing the constraints and time requirements for pre-construction activities, construction, and procurement.

A detailed Program Management Plan is in place and is included as additional information.

The use of the available State bond monies to match Federal grants is subject to completing a process of review by the Legislature, an independent review panel, and State financial officers. This can be accomplished in the year prior to September 2011 to allow work to begin. The process and other State oversight of the Authority is outlined in the December 2009 Report to the Legislature, pp. 127-131.

The PMT has implemented a formal Risk Management Program as a systematic process for identifying, assessing, evaluating, managing, and documenting risks that could jeopardize the success of the Project. The Risk Management Program's objectives are to:

- Link risk and returns
- Provide the means to achieve an acceptable level of CHSTP cost estimate and schedule
- certainty and establish levels of confidence associated with each
- Rationalize resources
- Exploit opportunities
- Reduce surprises and losses
- Report with greater confidence
- Satisfy legal and regulatory requirements

A copy of the current Risk Register is attached as Appendix B to the April 2010 Addendum to the Business Plan Report to the Legislature.

Further discussion of project risks and potential mitigation is provided in the and the April 2010 Addendum to the Business Plan Report to the Legislature (see pp. 32-44).

The Program Management Team is working closely with the FRA Office of Safety to ensure the sufficiency of the systems safety through a Rule of Particular Applicability. Security issues are also being incorporated into the design and operational concept of the system, and a specific safety and security plan is being drafted for review in the fall.

The project is on schedule to complete the environmental review process by September 2011 as required by the FRA, and the Authority is working closely with the FRA to meet this schedule. The project will then be ready to begin right-of-way acquisition, construction bidding, and procurement activity. The project will be completed by September 2017 as required by the ARRA. Realization of benefits outlined above will then be possible.

:

F. Technical Components

Address the sections below with information on the technical components of the Service Development Program.

(1) Indicate if you are requesting to be considered a “Standard Capital Project” as described in Section 1.3.1 of the NOFA.⁷

- ☐ Consider this application to be a “Standard Capital Project.”
- ☒ Consider this application to be a “Major Capital Project.”

Explain your response:

By definition, this is a "Major Capital Project" -- a new agency, new technology, multiple stakeholders, and a cost of over \$100 million.

(2) Indicate the operational independence of the Service Development Program.⁸

- ☒ This program is operationally independent. ☐ This program is not operationally independent.

Briefly clarify your response:

The proposed ARRA Tack 2-funded HSR improvements between San Francisco and San Jose would provide increased capacity (additional tracks and higher speed), faster trip times, and improved safety (through PTC and grade separations) for the Peninsula Rail Service currently operated by Caltrain. Station improvements, grade separations, and PTC Systems (all of which would be built under the ARRA Track 2 grant) and Electrification (to be built under this new HSIPR grant) would vastly improve rail service on the Peninsula.

(3) Provide Right-of-Way Owner(s) information in the program area. Where railroads currently share ownership, identify the primary owner. Click on the prepopulated fields to select the appropriate response from the list of choices.

Type of Railroad	Railroad Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreements to Implement Projects
Commuter Railroad or Authority	Caltrain/JPB	50	110	Preliminary Executed Agreement/MOU
Class 1 Freight	Caltrain/JPB owns ROW/UPRR owns Track 1 CP Coast-CP Lick	5	5	Preliminary Executed Agreement/MOU
Class 1 Freight	UPRR			Host Railroad Consulted, but Support not Final
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place

(4) Name the Intercity Passenger Rail Operator and provide the status of the agreement. If applicable, provide the status of agreement with the partner that will operate the planned passenger rail service (e.g., Amtrak). Click on the prepopulated field to select the appropriate response from the list of choices.

Name of Operating Partner:	Status of Agreement:
Unknown	Operations being competitively bid

⁷ Please note, that administratively, three primary distinctions exist between the Major and Standard Capital Project designation when applied to a Service Development Program: 1) the approach to the environmental review process; 2) FRA's use of a Letter of Intent (LOI) to contingently commit funds to the Service Development Program (as described in Section 2 of the NOFA); and 3) the project delivery tools required and used by FRA in managing the Service Development Program.

⁸ A Service Development Program is considered to have operational independence if, upon being implemented, it will result in a minimal operating segment of new or substantially improved high-speed or intercity passenger rail service that demonstrates tangible and measurable benefits, even if no additional investments in the same service are made.

(5) Provide information about the existing rail services within the Service Development Program area (e.g., freight, commuter, and intercity passenger). Click on the prepopulated field to select the appropriate response from the list of type of service.

Type of Service	Name of Operator	Top Speed Within Project Boundaries		Number of Route-Miles Within Project Boundaries	Average Number of Daily One-Way Train Operations ⁹ Within Project Boundaries
		Passenger	Freight		
Freight	UPRR		50	5	20
Commuter	Caltrain	79		50	90
Commuter	ACE	79		5	8
Freight					
Freight					
Freight					
Freight					
Freight					
Freight					
Freight					

(6) Estimate the share of benefits that will be realized by nonintercity rail services and provide the approximate cost share provided by the beneficiary.¹⁰ Click on the prepopulated fields to select the appropriate response from the lists of type of beneficiary, anticipated share of benefits, and approximate cost share. If more than five types of nonintercity passenger rail are beneficiaries, please provide additional information in a separate supporting document, and list it in Section G.2 of this application.

Type of Nonintercity Passenger Rail	Expected Share of Benefits	Approximate Cost Share
Freight	Less than 50%	0-24%
Commuter	Equal to 50%	0-24%
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%

(7) Describe the rolling stock type. Describe the fleet of locomotives, cars, self-powered cars, and/or train sets that are intended to provide service upon completion of the Service Development Program. Note if the equipment is already owned or needs to be acquired.

Caltrain will operate a new fleet of Electric Multiple Unit (EMU) equipment; ultimately, CHSRA will operate a new fleet of high-speed trainsets. All of this equipment needs to be acquired.

⁹ One daily round-trip operation should be counted as two daily one-way train operations.

¹⁰ Benefits include service improvements such as increased speed, on-time performance, improved reliability, and other service quality improvements.

G. Additional Information

Provide a response to the following, as necessary, for your Service Development Program.

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section A, Question 6).** Completing this question is optional.

The attached "Re-Defined San Francisco-San Jose Design-Build Section ARRA Track 2 Scope" document describes the original ARRA Track 2 D/B scope that was originally applied for in October 2009, refinements and re-scoping of the SF-San Jose ARRA Section, and the new HSIPR grant scope of this application.

- (2) Please provide a document title, filename, and description for all supporting documents.** Ensure that these documents are uploaded to GrantSolutions.gov with your application and use a logical naming convention.

Document Title	Filename	Description and Purpose
Letter to J. Szabo RE: FY10 Service Development Program Applications	CHSRA FY10 Service Development Program Applications Aug 06 2010.pdf	Cover Letter
Program Management Scope of Work & Deliverables FY2010-2011	02 Scope PMTeam 2010-11 v2e.pdf	Project Management Plan
SAN FRANCISCO TO SAN JOSE --- SUPPLEMENTAL PRO---FORMA SOURCES & USES IN THOUSANDS	Simple Pro-forma - SF to SJ - Supplemental.pdf	Financial Plan
APPROACH TO SYSTEM SAFETY PROGRAM AND PLAN	SSPP Approach Memo Draft.pdf	System Safety Plan
Agreements	All Stakeholder Agreements August 2010.pdf	Railroad and Project Sponsor Agreements
CA HST San Francisco-San Jose ARRA Exhibits	CD (submitted via Fed Ex)	Contains plan set listed below
CA HST San Francisco-San Jose Design Option A	Plan Set (submitted via Fed Ex)	ARRA Exhibit Plan Sets
Federal Register /Vol. 73, No. 249 /Monday, December 29, 2008 /Notices	http://www.cahighspeedrail.ca.gov/images/chsr/20100222094251_SF-SJ_NOI.PDF	Notice of Intent
Notice of Preparation	http://www.cahighspeedrail.ca.gov/images/chsr/20090113113149_San%20Francisco%20to%20San%20Jose%20NOP.pdf	Notice of Preparation
Draft Scoping Report	http://www.cahighspeedrail.ca.gov/images/chsr/	Draft Scoping Report

for the San Francisco to San Jose High-Speed Train Project-Level EIR/EIS August 2009	20090818174750_DraftSFtoSJScopingReportv2.pdf	
PRELIMINARY Alternatives Analysis Report for the San Francisco to San Jose Section April 2010	http://www.cahighspeedrail.ca.gov/images/chsr/20100408092523_SF-SJ%20Preliminary%20Alternatives%20Analysis%20Report.pdf	Alternatives Analysis - Preliminary
SUPPLEMENTAL Alternatives Analysis Report for the San Francisco to San Jose Section August 2010	http://www.cahighspeedrail.ca.gov/images/chsr/20100805081646_SF-SJ%20Supplemental%20AA%20Report.pdf	Alternatives Analysis - Supplemental
Draft Agency Coordination Plan for the San Francisco to San Jose Section November 2009	http://www.cahighspeedrail.ca.gov/images/chsr/20091210152034_CoordinationPlan-SF-SJ.pdf	Agency Coordination Plan
Draft Environmental Justice Outreach Plan San Francisco to San Jose Section High-Speed Train Project EIR/EIS May 2010	https://ww3.projectsolve2.com/eRoomReq/Files/SFOF/CHSTP-SanJosetoSanFranciscoSection/0_8ce11/FJ%20EJ%20Outreach%20Plan%20February%202010.docx	Environmental Justice Outreach Plan
Draft Tribal Consultation Plan for the San Francisco to San Jose Section EIR/EIS October 2009	https://ww3.projectsolve2.com/eRoom/SFOF/CHSTP-SanJosetoSanFranciscoSection/0_6348a	Tribal Outreach Plan
Technical Memoranda and Directive Drawings Released as of 8/3/10 (CD submitted via Fed Ex)	00 Released TM Directive Drawings List 100803.doc 00 Released TM List 10803.doc	1 CD with full copies of Tech Memos and Directive Drawings released 3 August 2010 (one CD submitted for all 4 applications)
System Requirements Database Reports as of 8/3/2010 (CD submitted via Fed Ex)	Link to ProjectSolve: https://ww3.projectsolve2.com/eRoom/SFOF2/FRA rpt_List_of_SRs_grouped_by_Subsystem.pdf rpt_List_of_SRs_grouped_by_Package.pdf rpt_SR_Text_only_sorted_by_SR.pdf rpt_CHSTP_System_Requirements_Full_Details.pdf	1 CD with System Requirements Database Reports released 3 August 2010 (one CD submitted for all 4 applications)
Redefined San Francisco	Redefined San Francisco - San Jose Design-Build Section ARRA Track 2	Refined scope,

- San Jose Design-Build Section ARRA Track 2 Scope	Scope.pdf	budget/schedule and other data for ARRA- funded project
Letter to Attn: Marianne McNamara RE: Supporting Documentation Submitted via FedEx	Transmittal letter.pdf	Transmittal Letter listing supporting documentation (2 boxes) sent to FRA via FedEx
Risk Identification and Mitigation Factors	Risks Identification and Mitigation Factors.pdf	Risk Management Plan

H. Checklist of Application Materials

Use this section to determine the thoroughness of your Service Development Program application prior to submission.

Documents	Format
1. Application Form	
<input checked="" type="checkbox"/> HSIPR Service Development Program Application Form [This Form]	Form
2. Budget and Schedule Form	
<input checked="" type="checkbox"/> HSIPR Service Development Program Budget and Schedule Form	Form
3. OMB Standard Forms	
<input checked="" type="checkbox"/> SF 424: Application for Federal Assistance	Form
<input checked="" type="checkbox"/> SF 424C: Budget Information-Construction	Form
<input checked="" type="checkbox"/> SF 424D: Assurances-Construction	Form
4. FRA Assurances Document	
<input checked="" type="checkbox"/> FRA Assurances Document (See Section 4.2.4 of the NOFA)	Form
5. Service Development Supporting Documentation	
<input checked="" type="checkbox"/> Service Development Plan (See Section 3.5 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> NEPA Documentation (See Section 4.2.5 of the NOFA)	No Specified Format
6. Service Delivery Supporting Documentation	
<input checked="" type="checkbox"/> Project Management Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Financial Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> System Safety Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Railroad and Project Sponsor Agreements (See Section 4.2.6 of the NOFA)	No Specified Format
7. Optional Supporting Documentation	
<input checked="" type="checkbox"/> Preliminary Engineering (PE) and/or Final Design (FD) Documentation (See Section 4.2.7 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Other Relevant and Available Documentation (See Section 4.2.7 of the NOFA)	n/a

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